

Positive fixed points of quadratic operators and Gibbs measures

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Abstract

© 2016 Springer International Publishing In this paper we consider a model with nearest-neighbor interactions and with the set $[0, 1]$ of spin values, on the Cayley tree of order two. Translational-invariant Gibbs measures for the model investigated by properties of positive fixed points of quadratic operators in the cone of (Formula presented.). In the last section it is constructed kernels for the Hammerstien's integral operator, which there exists two and three positive fixed points.

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Keywords

Cayley tree, Configuration, Fixed point, Quadratic operator, Translational-invariant Gibbs measure